

WHAT IS CLAIMED IS:

1 1. A method for treating an addiction disorder
2 in a patient, said method comprising:
3 administering to the patient a first $\alpha_3\beta_4$
4 nicotinic receptor antagonist; and
5 administering to the patient a second $\alpha_3\beta_4$
6 nicotinic receptor antagonist; wherein the second $\alpha_3\beta_4$
7 nicotinic receptor antagonist is different than the first
8 $\alpha_3\beta_4$ nicotinic receptor antagonist and wherein the first
9 $\alpha_3\beta_4$ nicotinic receptor antagonist and the second $\alpha_3\beta_4$
10 nicotinic receptor antagonist are administered
11 simultaneously or non-simultaneously.

1 2. A method according to claim 1, wherein the
2 addiction disorder is nicotine addiction.

1 3. A method according to claim 1, wherein the
2 addiction disorder is opioid addiction.

1 4. A method according to claim 1, wherein the
2 addiction disorder is heroin addiction.

1 5. A method according to claim 1, wherein the
2 addiction disorder is amphetamine addiction.

1 6. A method according to claim 1, wherein the
2 addiction disorder is cocaine addiction.

1 7. A method according to claim 1, wherein the
2 addiction disorder is alcohol addiction.

1 8. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist and the second
3 $\alpha_3\beta_4$ nicotinic receptor antagonist are administered
4 simultaneously.

1 9. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist and the second
3 $\alpha_3\beta_4$ nicotinic receptor antagonist are administered
4 simultaneously by administering a composition comprising
5 the first $\alpha_3\beta_4$ nicotinic receptor antagonist and the
6 second $\alpha_3\beta_4$ nicotinic receptor antagonist.

1 10. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist and the second
3 $\alpha_3\beta_4$ nicotinic receptor antagonist are administered
4 sequentially, in either order, within 4 hours of one
5 another.

1 11. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is administered
3 in an amount of from about 0.01 to about 10 mg/kg of the
4 patient's body weight per day and wherein the second $\alpha_3\beta_4$
5 nicotinic receptor antagonist is administered in an
6 amount of from about 0.01 to about 10 mg/kg of the
7 patient's body weight per day.

1 12. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is administered
3 in an amount of from about 0.1 to about 5 mg/kg of the
4 patient's body weight per day and wherein the second $\alpha_3\beta_4$
5 nicotinic receptor antagonist is administered in an
6 amount of from about 0.1 to about 5 mg/kg of the
7 patient's body weight per day.

1 13. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is selected from
3 the group consisting of mecamylamine, 18-
4 methoxycoronaridine, bupropion, dextromethorphan,
5 dextrorphan, and pharmaceutically acceptable salts and
6 solvates thereof.

1 14. A method according to claim 1, wherein the
2 second $\alpha_3\beta_4$ nicotinic receptor antagonist is selected from
3 the group consisting of mecamylamine, 18-
4 methoxycoronaridine, bupropion, dextromethorphan,
5 dextrorphan, and pharmaceutically acceptable salts and
6 solvates thereof.

1 15. A method according to claim 1, wherein
2 each of the first and second $\alpha_3\beta_4$ nicotinic receptor
3 antagonists is independently selected from the group
4 consisting of mecamylamine, 18-methoxycoronaridine,
5 bupropion, dextromethorphan, dextrorphan, and
6 pharmaceutically acceptable salts and solvates thereof.

1 16. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is mecamylamine.

1 17. A method according to claim 1, wherein the
2 second $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 dextromethorphan.

1 18. A method according to claim 1, wherein the
2 second $\alpha_3\beta_4$ nicotinic receptor antagonist is dextrorphan.

1 19. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is mecamylamine

3 and wherein the second $\alpha_3\beta_4$ nicotinic receptor antagonist
4 is dextromethorphan.

1 20. A method according to claim 1, wherein the
2 first $\alpha_3\beta_4$ nicotinic receptor antagonist is mecamylamine
3 and wherein the second $\alpha_3\beta_4$ nicotinic receptor antagonist
4 is dextrorphan.

1 21. A composition comprising:
2 a first $\alpha_3\beta_4$ nicotinic receptor antagonist; and
3 a second $\alpha_3\beta_4$ nicotinic receptor antagonist;
4 wherein the second $\alpha_3\beta_4$ nicotinic receptor antagonist is
5 different than the first $\alpha_3\beta_4$ nicotinic receptor
6 antagonist.

1 22. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist and
3 said second $\alpha_3\beta_4$ nicotinic receptor antagonist are present
4 in a weight ratio of from about 10:1 to about 1:10.

1 23. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist and
3 said second $\alpha_3\beta_4$ nicotinic receptor antagonist are present
4 in a weight ratio of from about 5:1 to about 1:5.

1 24. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 selected from the group consisting of mecamylamine, 18-
4 methoxycoronaridine, bupropion, dextromethorphan,
5 dextrorphan, and pharmaceutically acceptable salts and
6 solvates thereof.

1 25. A composition according to claim 21,
2 wherein said second $\alpha_3\beta_4$ nicotinic receptor antagonist is

3 selected from the group consisting of mecamylamine, 18-
4 methoxycoronaridine, bupropion, dextromethorphan,
5 dextrorphan, and pharmaceutically acceptable salts and
6 solvates thereof.

1 26. A composition according to claim 21,
2 wherein each of said first and said second $\alpha_3\beta_4$ nicotinic
3 receptor antagonists is independently selected from the
4 group consisting of mecamylamine, 18-methoxycoronaridine,
5 bupropion, dextromethorphan, dextrorphan, and
6 pharmaceutically acceptable salts and solvates thereof.

1 27. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 mecamylamine.

1 28. A composition according to claim 21,
2 wherein said second $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 dextromethorphan.

1 29. A composition according to claim 21,
2 wherein said second $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 dextrorphan.

1 30. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 mecamylamine and wherein said second $\alpha_3\beta_4$ nicotinic
4 receptor antagonist is dextromethorphan.

1 31. A composition according to claim 21,
2 wherein said first $\alpha_3\beta_4$ nicotinic receptor antagonist is
3 mecamylamine and wherein said second $\alpha_3\beta_4$ nicotinic
4 receptor antagonist is dextrorphan.

1 32. A composition according to claim 21,
2 wherein said composition is in the form of a tablet,
3 capsule, granular dispersible powder, suspension, syrup,
4 or elixir.

1 33. A composition according to claim 21,
2 wherein said composition is in the form of a tablet or
3 capsule and wherein said composition further comprises an
4 inert diluent, a granulating agent, a disintegrating
5 agent, a lubricating agent, or combinations thereof.

1 34. A composition comprising:
2 a first compound selected from the group
3 consisting of mecamylamine, 18-methoxycoronaridine,
4 bupropion, dextromethorphan, dextrorphan, and
5 pharmaceutically acceptable salts and solvates thereof;
6 and

7 a second $\alpha_3\beta_4$ compound selected from the group
8 consisting of mecamylamine, 18-methoxycoronaridine,
9 bupropion, dextromethorphan, dextrorphan, and
10 pharmaceutically acceptable salts and solvates thereof;
11 wherein the second compound is different than the first
12 compound.

1 35. A method of evaluating a compound for its
2 effectiveness in treating addiction disorders, said
3 method comprising:
4 assessing the compound's ability to bind to $\alpha_3\beta_4$
5 nicotinic receptors.

1 36. A method according to claim 35, wherein
2 said assessing comprises:
3 providing an $\alpha_3\beta_4$ nicotinic receptor; and

4 contacting the test compound with the $\alpha_3\beta_4$
5 nicotinic receptor; and

determining the amount of test compound which binds to the $\alpha_3\beta_4$ nicotinic receptor.

1 37. A method for treating an addiction
2 disorder in a patient, said method comprising:

3 administering to the patient an $\alpha_3\beta_4$ nicotinic
4 receptor antagonist under conditions effective to treat
5 the patient's addiction disorder.

1 38. A method according to claim 37, wherein
2 the $\alpha_3\beta_4$ nicotinic receptor antagonist is not
3 mecamylamine; is not 18-methoxycoronaridine; is not
4 bupropion; is not dextromethorphan; is not dextrorphan,
5 is not ibogaine; and is not a pharmaceutically acceptable
6 salt or solvate of mecamylamine, 18-methoxycoronaridine,
7 bupropion, dextromethorphan, dextrorphan, or ibogaine.

1 40. A method according to claim 37, wherein
2 the $\alpha_3\beta_4$ nicotinic receptor antagonist is specific for $\alpha_3\beta_4$
3 nicotinic receptors.

1 41. A method according to claim 37, wherein
2 the $\alpha_3\beta_4$ nicotinic receptor antagonist is more potent than
3 18-methoxycoronaridine at α,β nicotinic receptors